

Abstract of the Disclosure

Disclosed is an apparatus for converting an analog image data into a digital image data in a CMOS image sensor including a pixel array having $M(\text{row line}) \times N(\text{column line})$ color pixels, wherein the color pixels include a first color pixel for sensing a first color, a second color pixel for sensing a second color and a third pixel for sensing a third color. The apparatus includes an analog reference voltage generating unit for generating different analog reference voltages according to the analog image data of the color pixels, wherein the different analog reference voltage has different value and different decline rate, a selecting unit, in response to a select control signal, for selecting one of the corresponding analog reference voltages according to the color pixels, and a comparing unit for comparing the analog reference voltage and the analog image data to generate the digital image data corresponding to the color pixels, whereby a conversion operation of the analog image data into the digital image data is differently carried out according to the color characteristic.